ENVIRONMENTAL ASSESSMENT

SOUTH RIM
WILDLAND FIRE / HELIBASE FACILITY
DEVELOPMENT

GRAND CANYON

NATIONAL PARK

JUNE 1997

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GRAND CANYON NATIONAL PARK

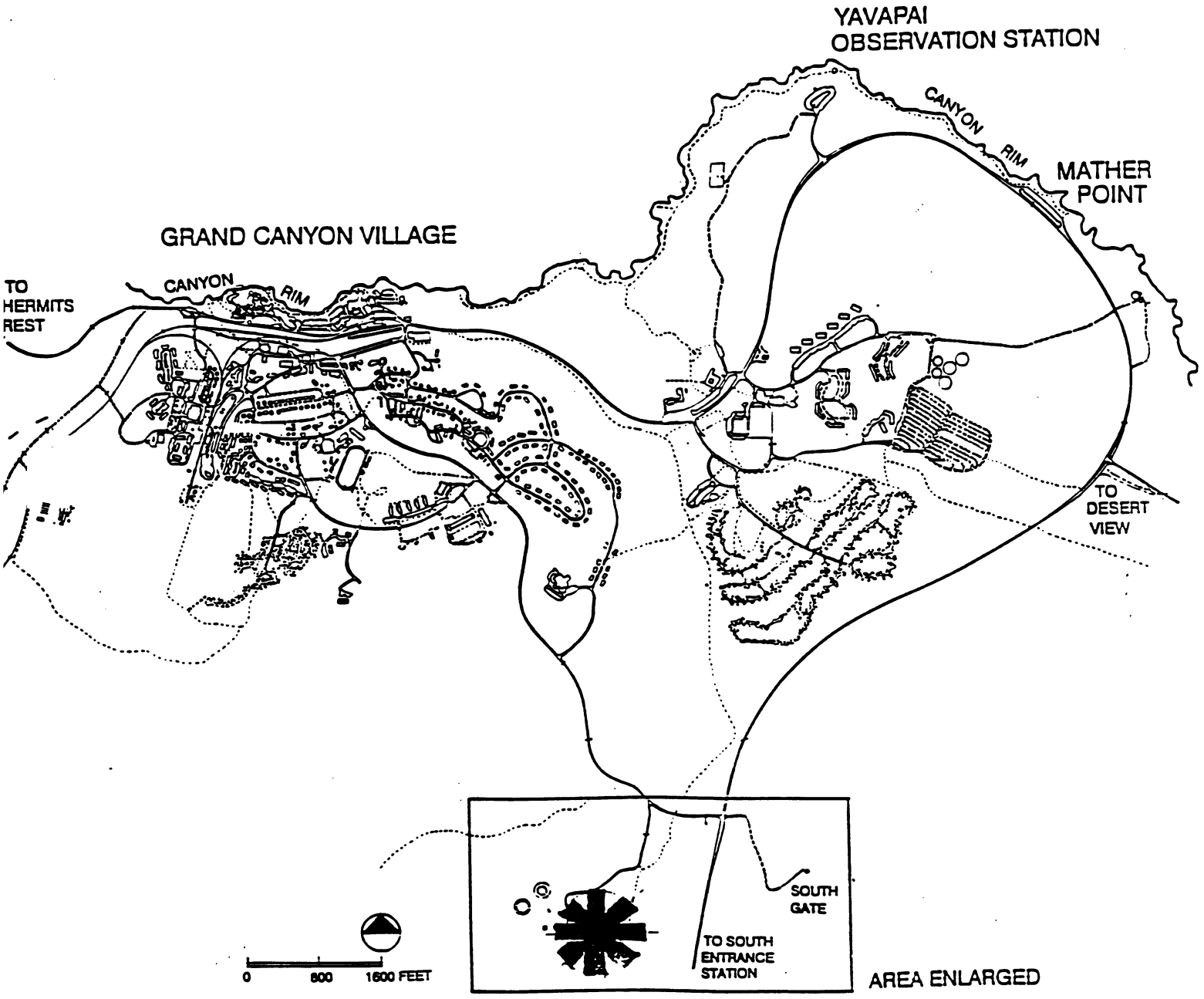
I. PURPOSE AND NEED

The 1995 General Management Plan (GMP) for Grand Canyon National Park identified retaining the South Rim Helibase in its present location in an old landfill site, near the proposed new National Park Service (NPS) maintenance and warehouse area. The GMP also identified removing the Wildland Fire operations from its current location in modular, temporary buildings, known locally as YACC camp. Though not originally envisioned in the GMP, the park is now proposing to combine the helibase and wildland fire operations at the South Rim Helibase. See Figure 1 for a vicinity map.

The park is in the process of developing a new contract for helicopter services that provides emergency services and administrative support for the NPS at Grand Canyon. The NPS has a strong commitment to reduce aircraft noise and restore natural quiet to the Grand Canyon area. An integral element of the new contract is a requirement that the successful contractor utilize quiet technology helicopters as part of their service. Unfortunately, all of the Type II quiet technology helicopters available in the market place are too large with their rotor configuration and height to fit through the door of the existing helicopter hanger on the South Rim, where the contracted ship will be housed. Therefore, it has become necessary to look at modifications to the existing hanger or to construct a new hanger. This is one element being addressed in this Environmental Assessment.

The current facilities for the Wildland Fire Operations are flimsily built modular offices spaces, with no garage shelter for wildland fire engines, and temporary storage structures for other critical equipment. In the GMP this area is designated for multi-family housing. The Wildland Fire Operation is not specifically addressed, but is assumed to be targeted to move into a complex with a combined Grand Canyon National Park Lodges and Grand Canyon National Park fire safety facility along Albright Avenue at the northwest corner of the existing NPS Maintenance Complex. Since there are divergent responsibilities and equipment needs between structural fire and wildland fire, this EA addresses a proposal to relocate the Wildland Fire Operations to the helibase area.

FIGURE 1 - VICINITY MAP



II. ALTERNATIVES

Alternative actions are presented for addressing both the hanger concern and for relocating the Wildland Fire Operations.

ALTERNATIVE 1 - NO ACTION

A. RETAIN THE EXISTING HANGER

This is essentially a minimal approach to try to solve the problem of having a hanger that is too small for the new contracted helicopter. The current hanger was constructed in the mid-1980's by a contractor constructing the Indian Garden campground. It was given to the NPS at no cost when the project was completed. It was a bare metal building that has since been painted with an insulating foam, the interior serves as a protection space for the helicopter, storage space for small materials and supplies needing transport to the inner canyon, and storage space for safety, hauling, and maintenance supplies and materials. Making the present hanger serve the new helicopter is difficult since the doorway is both too low and too narrow. Essentially, park engineers looking at this problem provided an option of raising the overall height of the building by disassembling the existing metal hanger, constructing a block stem wall, approximately three feet tall, and reassembling the hanger on the wall. This allows for the extra height of a new ship. At the time of reassembly, a new door configuration would be installed. The new door system will provide additional sliding panels, so that the door opening is twelve feet wider than is currently allowed. Project cost for this modification is approximately $60,000. When open, the sliding panels will extend beyond the walls of the building and will need to be supported from wind loads. On reassembly, the structure will need to be weather proofed and re-insulated. Effective operational and storage space within the hanger will be reduced since the ship is larger and will occupy more space. Additional building space for operations will likely be required in the vicinity of, or adjacent to, the hanger.

B. RETAIN PRESENT FACILITIES FOR THE WILDLAND FIRE OPERATION

The current Wildland Fire Operation is in a modular structure built as an office for the Young Adult Conservation Corps (YACC) in the mid-1970's. The building has been used by wildland fire for approximately

8 years. During this time the Wildland Fire program has grown while their facilities have not. The office building is in poor condition and too small for the operation. Equipment and supplies are stored in temporary, containerized structures, many salvaged from other Federal agencies. The park has two wildland fire engines that need to be readily available during the fire season and should be protected from the ice, snow, and freezing temperature of winter. The engines have not had winter or summer shelters since the park got them about 5 years ago. In retaining the present location, shelter facilities would need to be constructed, more permanent facilities should be built for offices and equipment. Buildings the size of those presented in ALTERNATIVE 2 would be needed, approximately 4600 square feet.

Currently the 1995 GMP calls for using the present Wildland Fire Operations area for housing. This is an already disturbed area that has been used for housing since the mid-70's and several of the old YACC Camp housing units are still used for employee housing, both temporary and permanent.

ALTERNATIVE 2 - PROPOSED ACTION

A. BUILD A NEW HANGER AND RECONFIGURE THE HELIBASE

As an alternative to taking down and rebuilding the old hanger, the NPS proposes to build a new hanger that is approximately 50 feet by 60 feet, which could allow for some future growth and retaining storage and work space currently available. The projected cost for this action is between $230,000 and $260,000. The existing helibase location will be retained but be reconfigured, moving the hanger approximately 150 feet southwest and turning it 90 degrees. The existing landing pad would be retained. This configuration allows for a clearer flight path. The existing hanger will be retained until the new building is on line, then it will be taken down and removed from the site. A second landing pad will be added to support the helicopter operation since the park frequently uses a second ship during search and rescue and wildland fire operations. See Figure 2 for a proposed site plan.

The proposed new hanger would be a wood framed and sided structure with pitched roof, and split faced masonry block detailing; it will comply with the Grand Canyon National Park Architectural Character Guidelines. The existing frame helibase office building and parking area will be retained. Telephone and electricity lines are within

FIGURE 2 - SITE PLAN

PROPOSED WILDLAND FIRE / HELIBASE FACILITY SITE

Located in the SE 1/4 of Section 25,
and in the NE 1/4 of Section 36,
T31N, R2E, of the
Gila & Salt River Base & Meridian
Grand Canyon National Park
Coconino County, Arizona.

Basis of Bearings
From Versar Inc. "Fuel Storage Tanks" drawings dated June, 1996.
Reference points used are 1/2" rebar; N 1833293.2187, E 438202.6546 and PK nail in pavement; N 1833216.6386, E 437803.6776

STATE	PROJECT	SHEET NO.	TOTAL SHEETS
AZ	GRAND CANYON N.P.	1	4

cp200
Versar Inc. survey point
found PK nail in pavement
N 1833216.64
E 437803.68
Elev. 6898.05

cp100
Versar Inc. survey point
found 1/2" rebar
N 1833293.22
E 438202.65
Elev. 6910.78

T-42
Federal Highway Admin. survey point
found 1/2" rebar
N 1832832.82
E 437885.30
Elev. 6897.82

Shuttle Bus Road

NPS Dry Storage Area

exist. landing pad
exist. hangar
exist. office
exist. gravel parking area
exist. cmp
END WATER/SEWER LINES
NEW 18" CMP
NEW 20'x20'x6" THICK CONCRETE LANDING PAD
NEW 80'x10'x4" THICK ASPHALT RAMP
RELOCATE EXIST. ELECTRIC SERVICE
NEW MH
NEW ASPHALT PARKING LOT
8 parking spaces
NEW HELICOPTER HANGAR
cp700
exist. rail fence
NEW ENGINE BAY
NEW PROPANE TANK W/ ENCLOSURE
RELOCATED ELECTRIC SERVICE LINE (TYP)
NEW LPG LINE
NEW 5' ASPHALT WALKS
RELOCATED ELECTRIC SERVICE LINE (TYP)
REMOVE EXIST. FENCE FROM BLDG. LOCATION
exist. chainlink fence
NEW 6' CHAINLINK FENCING (approx. 625 l.f.)
CONNECT TO EXIST. FENCE AT EACH END
exist. rappelling tower
NEW OFFICE BLDG.
END NEW 6' CHAINLINK FENCING

Shuttle Bus Maintenance Compound

Ponderosa Pine / Pinon Pine / Juniper Forest

cp700
NPS control point
set orange plastic stake
N 1832885.76
E 437587.22
Elev. 6882.70

cp300
NPS control point
found orange plastic stake
N 1832854.36
E 437936.19
Elev. 6888.41

GENERAL CONSTRUCTION NOTES:

1. Computer networking cable and phone lines shall be run in electrical trenches and shall connect to all buildings.
2. Waste and water ending locations shall be marked.
3. Perform grading as required to provide adequate drainage of parking areas and between buildings.
4. Paved walks and parking are 2" asphalt on 4" compacted a.b.c. Helicopter ramp and landing pad are concrete in thickness shown.
5. New fencing is 6' high vinyl coated chainlink.
6. Construct water and sewer service lines where shown. Sizes shall be per current codes. Sewer lines shall be ABS, water shall be PVC.

LEGEND

- SCRUB OAK BRUSH
- PONDEROSA PINE TREE
- PINON PINE TREE
- JUNIPER TREE
- FOUND STONE CAIRN
- SET SURVEY POINT
- FOUND SURVEY POINT
- —W— NEW WATER SERVICE LINE
- —S— NEW SEWER SERVICE LINE
- —E— NEW ELECTRIC SERVICE LINE
- —LPG— NEW LPG SERVICE LINE

N

20 0 20 40

Scale 1" = 20 feet
Contour Interval = 1 foot
9704162.DWG

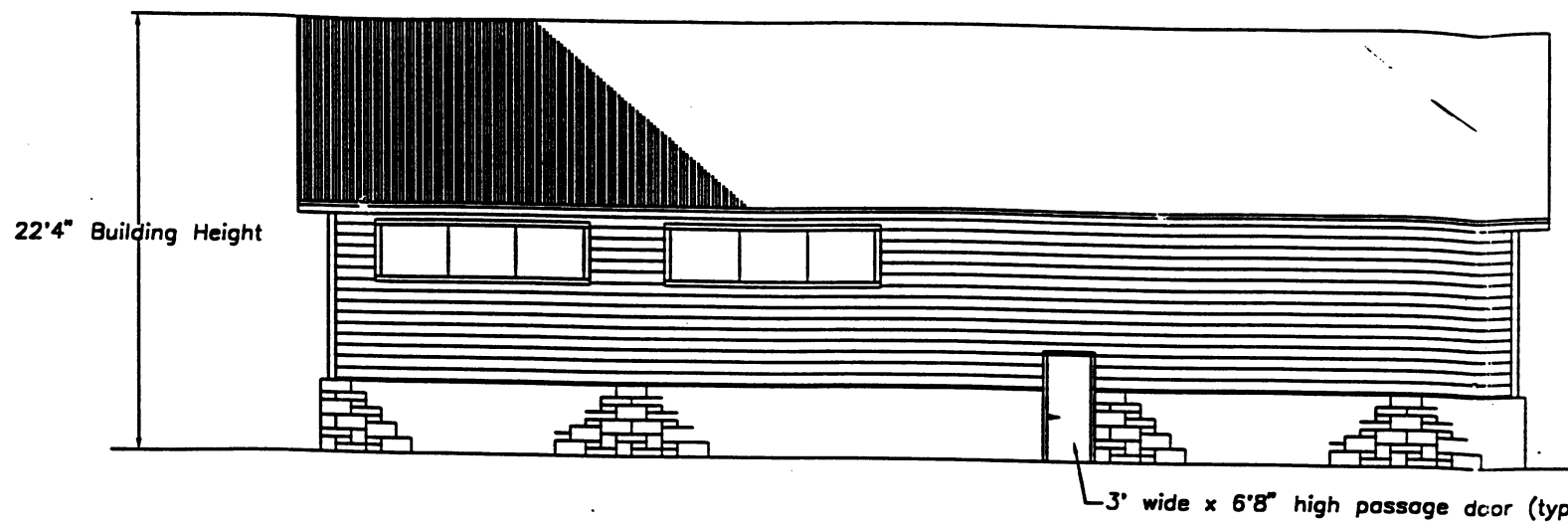
REDUCED SCALE DRAWING

DESIGNED: J. Dunn	SUB SHEET NO.	TITLE OF SHEET: Wildland Fire / Helibase Facility SITE PLAN GRAND CANYON NATIONAL PARK	DRAWING NO.
CADD: J. Dunn			PKG. NO.
TECH. REVIEW:			SHEET 1 OF 4
DATE: 1997			

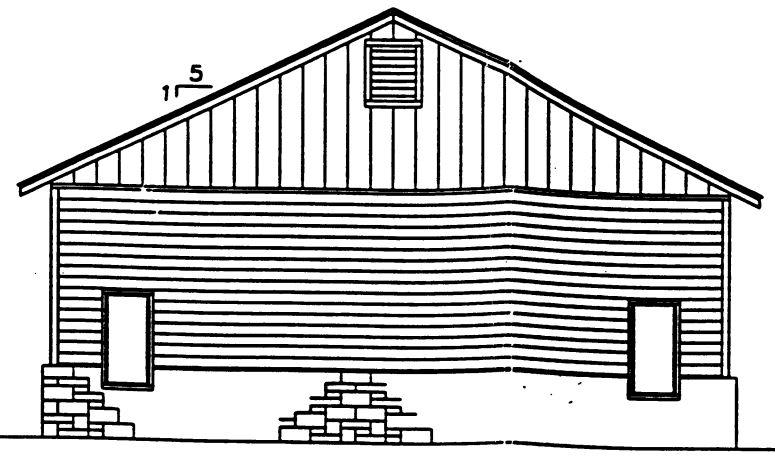
FIGURE 3 - BUILDING ELEVATIONS

STATE	PROJECT	SHEET NO.	TOTAL SHEETS
AZ	GRAND CANYON N.P.	3	4

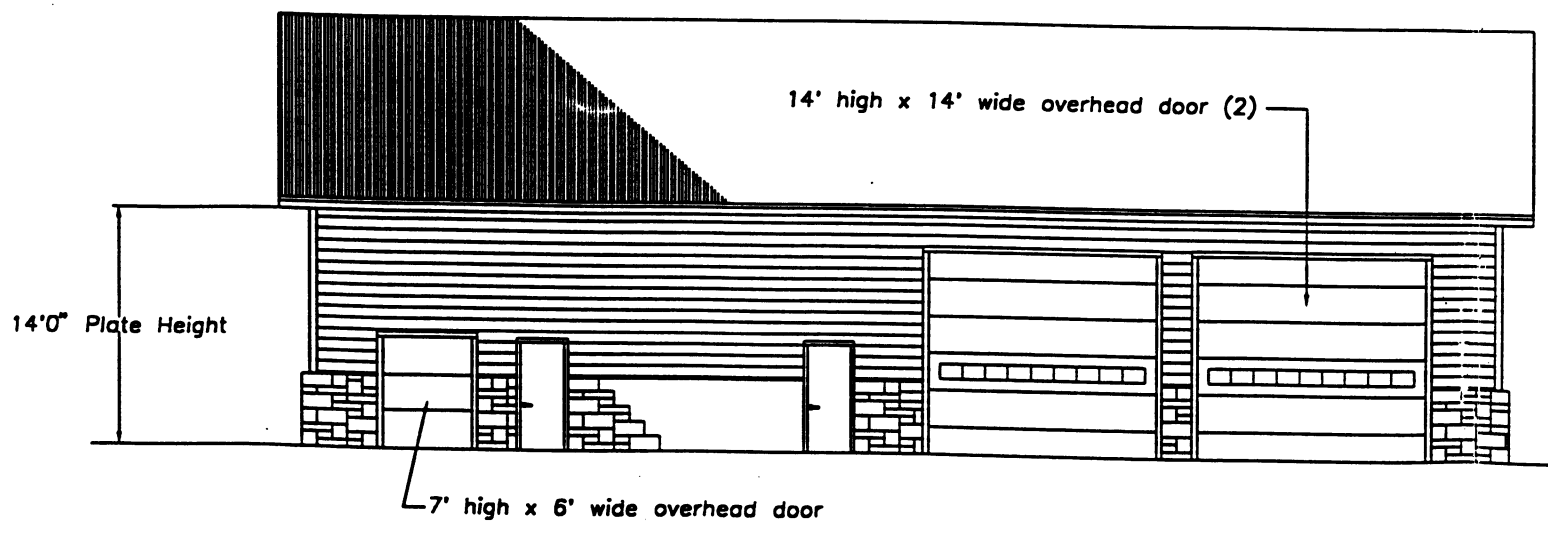
NOTE: ELEVATIONS OF HELICOPTER HANGAR SHALL UTILIZE SAME MATERIALS AND CONCEPT.



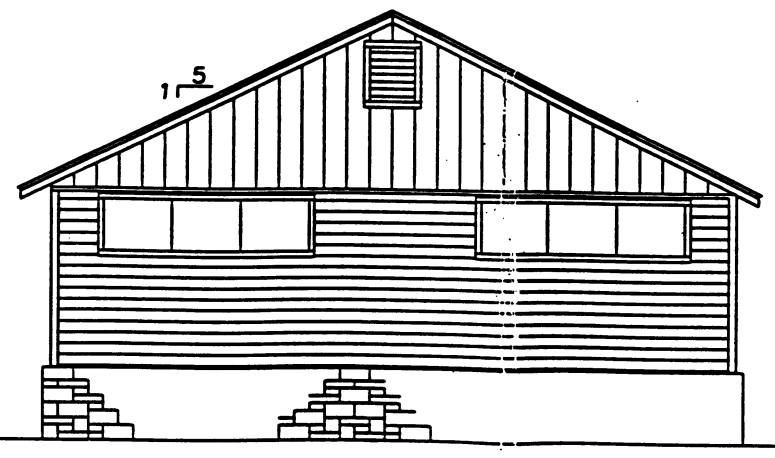
WEST ELEVATION
Scale : 3/16" = 1'-0"



SOUTH ELEVATION
Scale : 3/16" = 1'-0"



EAST ELEVATION
Scale : 3/16" = 1'-0"



NORTH ELEVATION
Scale : 3/16" = 1'-0"

GENERAL STRUCTURAL CRITERIA: (Fire Engine Bay & Office Building)

1. Minmum depth to top of footing is 24" unless solid rock is encountered. Footing can then be pinned to bedrock at the discretion of the Contracting Officer.
2. Bottom plate to be pressure treated, double top plates.
3. Trusses to be IBCO approved, 40 psf design live load.
4. 6" minimum distance is required between earth and wood.
5. Wind design loading shall be 80 mph.
6. Buildings structural designs shall comply with Seismic Zone 3 reqmts.
7. Roof structure over storage loft shall be scissors trusses providing minimum 8' ceiling height at building center.
8. All plumbing and equipment vents shall be routed to exit roof at the ridge.
9. Storage loft shall be located above offices, bath, utility, & cache rooms. Storage loft floor shall have live load rating of 120 psf.

GENERAL ELEVATION CRITERIA:

1. Horizontal lap siding to have 8" exposure.
2. Vertical T1-11 siding to have 12" grooves.
3. Roofing to be factory painted 2-1/2" corrugated metal.
4. Gable vents to be wood w/ screen backing.
5. Gutters to be provided over entire east and west eaves.
6. Overhead sectional doors to have lights.
7. 4" thick cmu veneer to be random patterned split face units.
8. Finish floor elevation to be set by Contracting Officer.
9. All windows to be casement or awning units.
10. Exterior wood trim shall be 2x4 resawn w/ siding butted to trim.
11. All windows shall be either casement or awning type.

REDUCED SCALE DRAWING

DESIGNED: J. Dunn	SUB SHEET NO. A	TITLE OF SHEET: Wildland Fire / Helibase Facility Elevs - Engine Bay GRAND CANYON NATIONAL PARK	DRAWING NO.
CADD: J. Dunn			PKG. NO. / SHEET 3 OF 4
TECH. REVIEW:			
DATE: 1997			

the facility compound area and will need minimal excavation for hookup. Water and sewer hook-ups will be extended from the proposed new maintenance and warehouse facility when that is constructed at a future date. See Figure 2 for a site plan.

B. RELOCATE WILDLAND FIRE OPERATIONS TO HELIBASE

Coupled with building a new relocated hanger for the South Rim Helibase is development of a Wildland Fire Operation facility at the helibase location. The helibase is managed by wildland fire personnel and many times during the year helibase operations draws heavily on the Wildland Fire Operation for additional support staff. Co-developing a facility makes operational sense. The new Wildland Fire facility would consist of an Engine Bay for the wildland fire engines, other support vehicles, and storage of supplies and equipment, and an Office Building that would house the Fire Management Officer (FMO) and his staff. The FMO also supervises the helibase operations. See Figures 2 and 3 for the proposed site plan and sample building elevations.

The proposed new fire engine bay would be a wood framed and sided structure with pitched roof, and split faced masonry block detailing and the office building will be a framed wood building with pitched roof, both new buildings will comply with the Grand Canyon National Park Architectural Character Guidelines. Since water and sewer systems do not currently exist at this site, the engine bay and office building will be plumbed into temporary water and holding tanks. Alignment will be such that on completion of the proposed new maintenance and warehouse facility water and sewer connections, the lines can be extended to this facility and connections made without replumbing the Wildland Fire facility. A new paved entrance road and parking area will be needed for the facility. Telephone and electricity lines are within the facility compound area and will need minimal excavation for hookup.

Construction of the new complex is planned for a phased, multi-year approach. Phase 1 will consist of construction of the 3000 square foot (50 feet by 60 feet) hanger and initiation of a 2800 square foot (40 feet by 70 feet) fire engine bay. Phase 2 will consist of completion of the fire engine bay and initiating construction of an 1800 square foot (30 feet by 60 feet) office building. Phase 3 will be the completion of the office building.

ALTERNATIVES CONSIDERED AND REJECTED

A. HELIBASE

An alternative of locating the contracted helicopter out of the park at the airport was considered and rejected for two reasons:

1. There is still a lack of hanger facility for the ship, and
2. The ship is used for emergency response from within the park so it needs to be within a quick response distance. Housing the ship at the airport would slow down response time.

B. WILDLAND FIRE OPERATIONS

The 1995 GMP designated an area at the northwest corner of the existing NPS Maintenance area as a combined Grand Canyon National Park Lodges and National Park Service Fire and Safety Facility. It has been assumed that the Wildland Fire Operations would be combined with the structural fire and safety operations at this location. This site has been disturbed for many years and was leveled as part of the development of the NPS Maintenance area during the 1960's. The area is approximately 12500 square feet (100 feet by 125 feet). One or two buildings would be needed for wildland fire as described in ALTERNATIVE 2, with at least 4600 square feet. At a later date, the structural engine bay, ambulance and rescue vehicle bay, and fire and safety offices would need to be designed and built. The area might hold all of the proposed functions in three or four structures, but would likely prove overcrowded and cumbersome. A single building facility likely would not prove suitable since all functions are different and require different vehicles, equipment, and personnel. In addition the Wildland Fire Operation has a stronger relationship to the helibase operation than any of the other functions. Locating the combined fire and ambulance bays along with the operation personnel at this location with access to the village makes sense; placing the Wildland Fire Operation at this location does not.

III. ENVIRONMENTAL CONSEQUENCES

A. NATURAL RESOURCES

1. AFFECTED ENVIRONMENT

NO ACTION ALTERNATIVE - The current helibase is located on an old landfill site. The area is extensively disturbed and human activity is frequent, especially the coming and going of aircraft. There is a lack of vegetation and wildlife at the helibase site. The Wildland Fire Facility is in a more residential developed area. It also borders on undeveloped Pinyon/Juniper forest that has been disturbed by frequent intrusion and human activities. The facility has paved roads with developed infrastructure and parking lots.

PROPOSED ALTERNATIVE - Both facilities will be placed in the current helibase area. The location designated for the complex contains both disturbed, former landfill area and undeveloped Ponderosa forest with a few scrub oak clusters. The entire area has been one of activity with the helibase and a rappelling tower on site and the shuttle bus garage and parking area about 200 yards away. As with any wooded area around the park there are various species of small rodents, common birds, coyote, and deer in the site area.

2. IMPACTS

Neither area is a floodplain or a wetland; neither alternative will affect air or water quality.

NO ACTION ALTERNATIVE - Retaining both the existing helibase hanger with rebuilding modifications and the current Wildland Fire Facility with maintenance upgrades would not have any affect on the natural resource environment. Both facilities are in place, ground around both of the areas is disturbed. Even the addition of minor additional facilities for storage of equipment at the helibase and a garage structure for the fire engines could be accomplished utilizing disturbed areas.

PROPOSED ACTION - Redesign of the existing helibase which includes moving the hanger and the introduction of the Wildland Fire Facility, will have no significant impact to the area. As seen on the site plan (Figure 2) the new hanger will affect a small oak cluster, requiring the removal 4 or 5 trees, placement of the Engine Bay requires the removal of 1 ponderosa, as does placement of the new offices.

Walkways, driveways, and parking areas have been designed to avoid tree removal. Small animals in the area are used to human activity and should not be affected by this development. A survey was conducted for threatened and endangered species and none were found.

B. CULTURAL RESOURCES

1. AFFECTED ENVIRONMENT

NO ACTION ALTERNATIVE - The current helibase is located on top of fill that covers a landfill used in the 1950's and 1960's. The landfill itself is too young to be evaluated as a historical site and the previous disturbance to create the landfill would have wiped out any potential sing of archeological resources. Archeological resources have not been located within the current Wildland Fire Facility site. However, archeological resources have been located in wooded areas adjacent to nearby developed sites. Expansion of the Wildland Fire Facility at its current location would require archeological survey. No historic districts are within the vicinity of the current Wildland Fire operation.

PROPOSED ACTION - An archeological survey has determined that there are no archeological resources within the area proposed for development under this action. There are also, no historic resources within or adjacent to the Proposed Action area.

2. IMPACTS

There will be no effect to cultural resources by either the No Action or the Proposed Action alternatives.

IV. LIST OF PERSONS OF AGENCIES CONSULTED

* Brad Traver, Manager, GMP Implementation Team, Grand Canyon National Park
* Jan Balsom, Cultural Resources Manager, Grand Canyon National Park
* Johnny Ray, Natural Resources Manager, Grand Canyon National Park
* Dan Oltrogge, Fire Management Officer, Grand Canyon National Park

V. PREPARERS AND BIBLIOGRAPHY

* John Dunn, Engineer Technician, Grand Canyon National Park
* Doug Brown, Compliance Officer, Grand Canyon National Park
* Final General Management Plan and Environmental Impact Statement, Grand Canyon National Park, July, 1995.

United States Department of the Interior

NATIONAL PARK SERVICE
GRAND CANYON NATIONAL PARK
P.O. BOX 129
GRAND CANYON, ARIZONA 86023-0129

IN REPLY REFER TO:
L7619 (GRCA 8221)

JUL 02 1997

Dear Friends of Grand Canyon National Park:

Enclosed is an Environmental Assessment titled SOUTH RIM WILDLAND FIRE/HELIBASE FACILITY DEVELOPMENT recently prepared in the park. Actions proposed in the document call for reconfiguring the helibase, replacing the existing hanger, and relocating the Wildland Fire Operations from the village to the helibase area. Two alternatives are discussed. The No Action Alternative provides for retaining the current helibase configuration and rebuilding the old hanger to accommodate larger, quiet technology helicopters. The Proposed Action will reorganize the helibase, construct a new hanger, and provide a Wildland Fire Operations facility adjacent to the helibase.

We are providing this document for public review until July 31. **Please provide your comments to:**

Compliance Officer
Attention: Wildland Fire/Helibase EA
Grand Canyon National Park
P.O. Box 129
Grand Canyon, Arizona 86023

Sincerely,

Robert L. Arnberger
Superintendent

Enclosure